

# OM1411-X EoS HO VMAP 10G



Virtual ASSP

10Gb/s, 192 Group HO Ethernet(SPI4.2) over Sonet/SDH Mapper

## Description

The OM1411 is an highly integrated, ultra compact **10Gb/s, High Order Ethernet over Sonet/SDH Packet Mapper** 'Virtual ASSP' targeted to the Xilinx Virtex 5 family. 10Gb/s of channelized Ethernet is transported over Sonet/SDH (EOS) using standards complaint GFP-F, VCAT and LCAS.

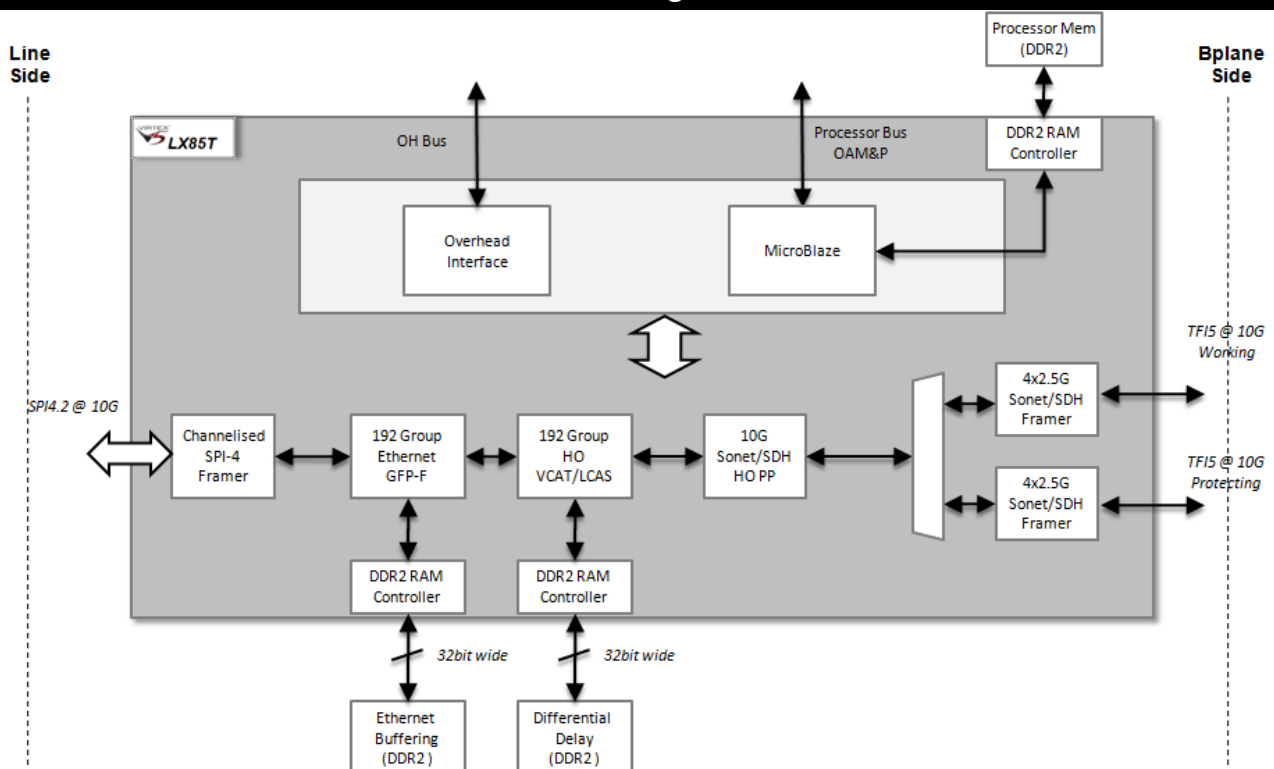
The 'packet' interface is SPI4.2 and supports 192 channels allowing more individual customers to be handled on a single device further reducing opex. The 'Sonet/SDH' interface is 10Gb/s 1+1 protected TF15 interface for high reliability carrier grade deployments.

The OM1411 handles both 'Real Concatenation' (CCAT) and 'Virtual Concatenation' (VCAT). In addition, LCAS is supported to allow group bandwidth to be hitlessly increased or decreased as customer need dictates.

The OM1411 has been designed from the ground up as cost effective ASSP replacement in an FPGA – ultra-compact IP targeting the lowest cost FPGA, highly integrated design with CDR, Framer, Mapper and SPI4.2 interface in a single package, 32bit wide DDR2 for external packet buffer and external differential delay memory (up to 64ms), Software Device Driver and on-chip debugger and supporting toolchain - all lower cost and accelerate TTM.

Typical applications are in Metro Core head end products supporting many EOS VCAT/GFP streams from multiple Access Network customers into a single 10GbE stream for handoff to the Data Core Network.

## Block Diagram



## Virtual ASSP

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## Features

## Backplane Interfaces

- 2 x 10G TFI5 supporting 1+1 Equipment Protection.

## Network Interfaces

- 10G - SPI4.1 622Mhz LVDS for direct connection to NPU or TM.

## Sonet/SDH

- Sonet/SDH G.707/T1.105 compliant.
- SDH Mappings - AU4-64c, 16c, 4c, AU4, AU3 and AU4/TU3.
- Sonet Mappings – STS1, STS1-3c, 12c, 48c, 192c SPE
- SDH Payloads - VC3, VC4, VC4-4c, 16c, 64c
- Sonet Payloads - STS1, STS1-3c, 12c, 48c, 192c
- Full SOH & POH Processing.
- Overhead Insert/Extract over external bus for mate to mate or linecard to switch signalling.

## GFP/VCAT/LCAS

- 192 VCAT Groups (10G), individually rate configurable.
- GFP-F (G.7041), Mapping support.
- VCAT Payloads STS1, STS1-3c, VC3 and VC4.
- 'Any to any' payload to VCAT group assignment.
- 64ms differential delay using external low-cost DDR2 memory.
- LCAS support (ITU G.7042) for hitless dynamic bandwidth adjustment.
- LCAS to non-LCAS interworking.
- Support for Client Management Frames

## Ethernet

- SPI4.2 Channelised Interface.
- External packet buffer in low cost DDR2 memory.
- Jumbo Frame support.

## OAM

- 16 bit OAM Bus for configuration, performance monitoring, alarm reporting and event reporting.

## Benefits

## Low Cost.

- Ultra-compact design.
- Single Device Design.
- Low cost DDR2 Memory.

## Global Application.

- Sonet T1.105 and SDH G.707 support.

## Unparalleled Development and Support Tools.

- OmniSPY and OmniTEST support tools reduce development time and costs by up to 50%.

## Adaptable Design

- Interface adaptations incorporated in the device further reduce peripherals and costs

## Applications

- MSPP EoS Headend Linecards.
- DWDM Ethernet Sub-Rate Linecards/Muxponders.
- Hybrid Data/Sonet Fabric Interconnect Blind Linecards.

## Target Devices &amp; Customisation

LX50T to LX85T depending on requirements. FF1136 pin compatible packages.

Typical Customisations :

SPI4.2 adaptation to support NPU vendor extensions.

External Overhead Bus adaption to eliminate external 'glue' logic.

Omiino is happy to consider other customisation requests.

## Contacts

For more information please contact sales@omiino.com